STEREO INTEGRATED AMPLIFIER

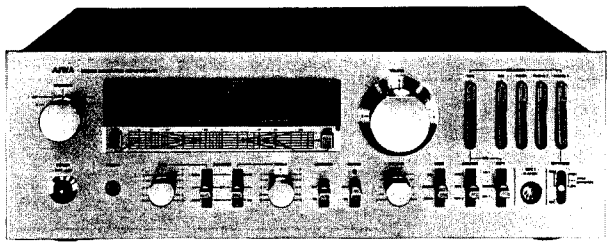
211

MODEL NO. AA-8700H, E, K

AIWA®

[SERVICE MANUAL]

Code No., 08-870-000-20



DATE OF ISSUE 10/1978

SPECIFICATIONS

Semiconductors:	4 IC's, 8 FET's, 51 transistors, 58 diodes, 7 LED'S
Power source:	AC 120V/220V/240V (selectable with voltage selector)
Power consumption:	550 W (E, K model) 260 W (H model)
Dimensions:	448 (W) x 156 (H) x 375 (D) mm
Weight:	16.5 kg
Power output	
Dynamic power output: (at 1 KHz)	170 W + 170 W (4 ohms) 150 W + 150 W (8 ohms)
Power output (FTC): (All channel driven 20 Hz~20 kHz, THD 0.02%)	85 W + 85 W (4 ohms) 75 W + 75 W (8 ohms)
Power output (DIN 45500): (10 minutes driven 1 kHz, THD 1%)	85 W + 85 W (4 ohms) 75 W + 75 W (8 ohms)
Total harmonic distortion (IHF):	0.01% (at 40 W, 8 ohms)
Intermodulation distortion (IHF): (at 50 Hz: 7 kHz = 4:1, 8 ohms)	0.02% (rated power 75 W + 75 W)
Power bandwith (IHF): (both channel driven at 8 ohms)	5 Hz ~ 100 kHz (less than 0.03%)
Signal to noise ratio: (IHF A curve)	PHONO (MC) 70 dB (30Ω) PHONO (MM) 83 dB (short circuit) TUNER,AUX,TAPE 100 dB (short circuit)
Damping factor:	More than 40 (at 8 ohms, 20 Hz ~20 kHz)
Channel crosstalk (DIN):	50 dB (at 1 kHz)

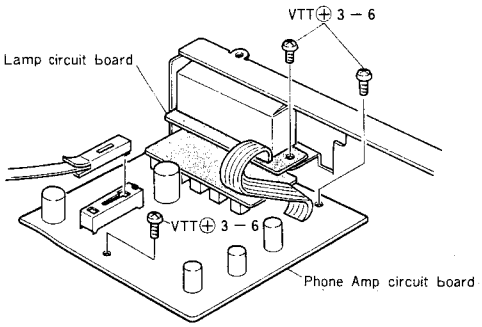
Input sensitivity and impedance:	PHONO1 (MC)	220mV/10 ohms
	PHONO1,2(MM)	2.5mV/47 k-ohms
	TUNER,AUX,	150mV/47 k-ohms
	TAPE,DIN	150mV/47 k-ohms
	MAIN IN	0.8V/47 k-ohms
Phono maximum input voltage: (1 kHz, THD 0.02%)		280 mV
RIAA deviation:		±0.2 dB (30 Hz ~ 15,000 Hz)
Tone control:		
Bass	20 Hz	±8 dB (turnover frequency 200 Hz)
	50 Hz	±8 dB (turnover frequency 400 Hz)
Treble	20 kHz	±10 dB (turnover frequency 2.5 kHz)
	40 kHz	±10 dB (turnover frequency 5 kHz)
Filters:	**Low:**	30 Hz, 12 dB/oct.
	High:	10 kHz, 12 dB/oct.
Output voltage and impedance:	TAPE	150 mV/47 k-ohms
	DIN	30 mV/80 k-ohms
	PRE	0.8 V/1.3 k-ohms
	PHONES	4 ~ 16 ohms
	SPEAKER	4 ~ 16 ohms (A, B) 8 ~ 16 ohms (A+B)

- The specifications and external appearance of this set are subject to change without prior notice.

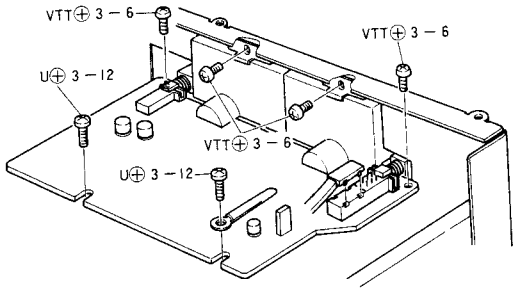
DISASSEMBLY INSTRUCTIONS

To Remove Phono Amp Circuit Board
Remove 3 screws.

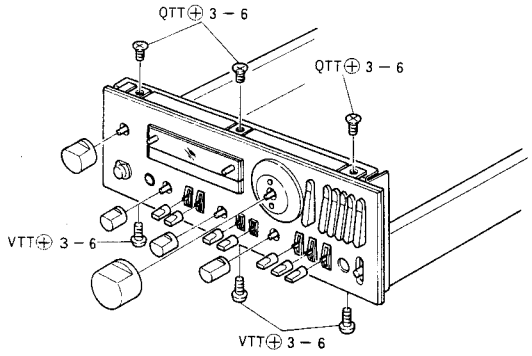
To Remove Lamp Circuit Board
Remove mounting screw.



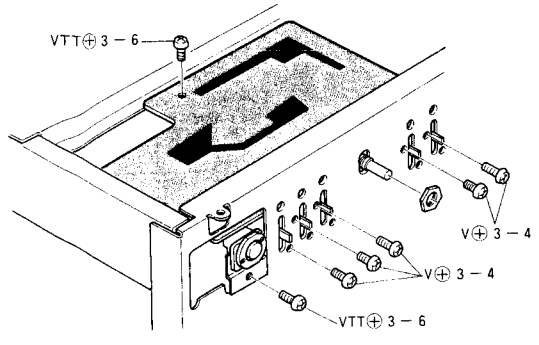
To Remove Meter Amp Circuit Board
Remove 6 screws.



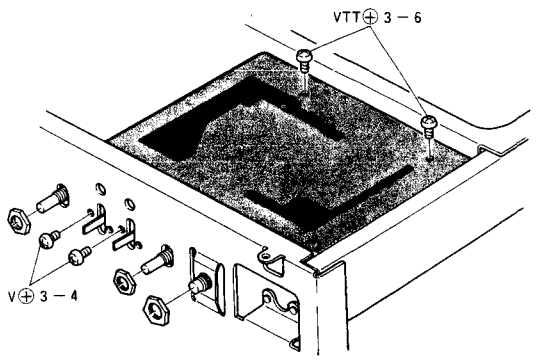
To Remove Front Panel
1) Remove 12 knobs.
2) Remove 6 screws.



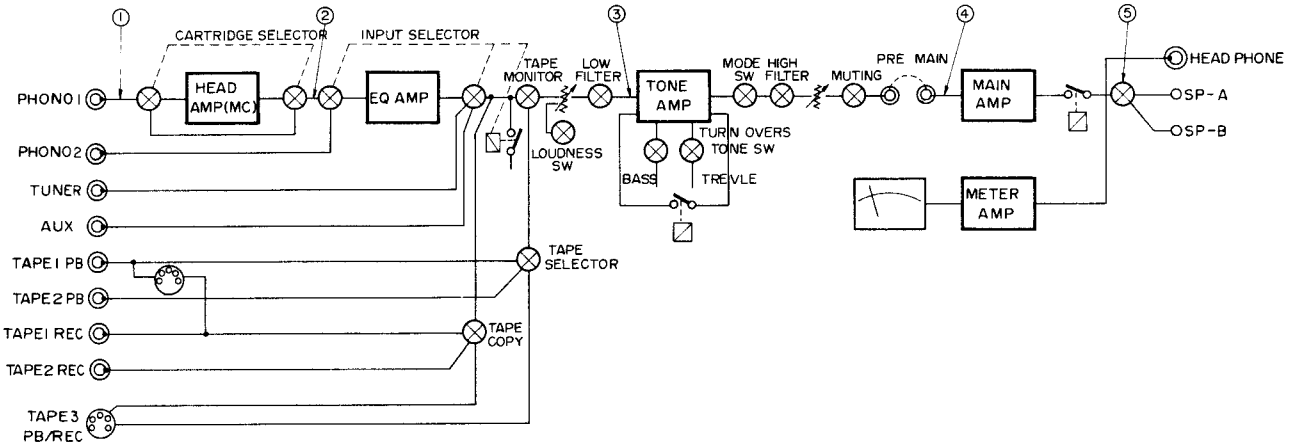
To Remove Pre Amp Circuit Board
1) Remove 7 screws.
2) Remove mounting nuts.

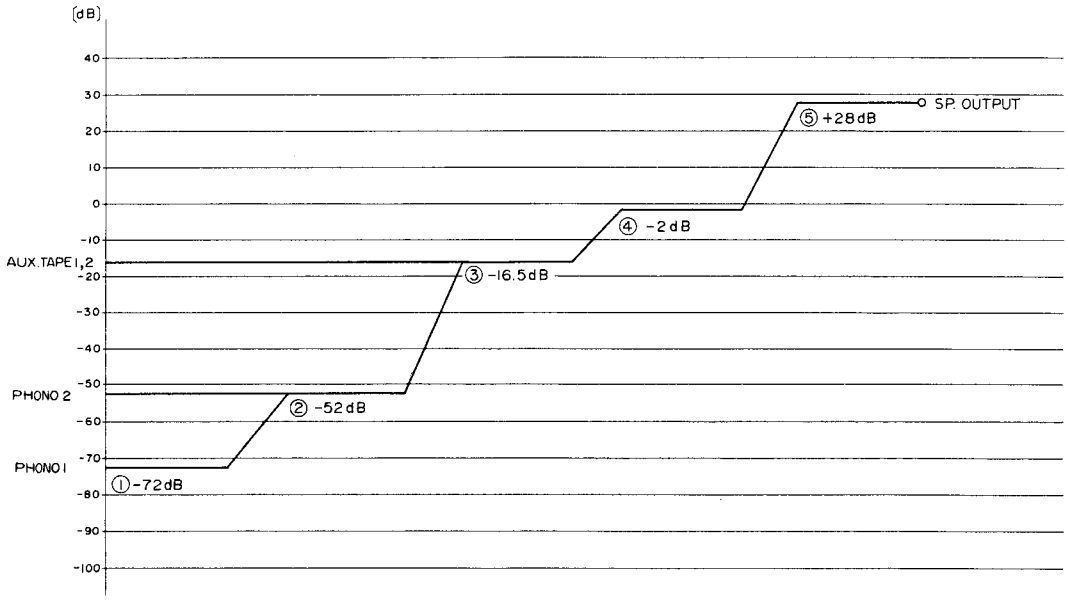


To Remove Tone Power Circuit Board
1) Remove 4 screws.
2) Remove 3 nuts.

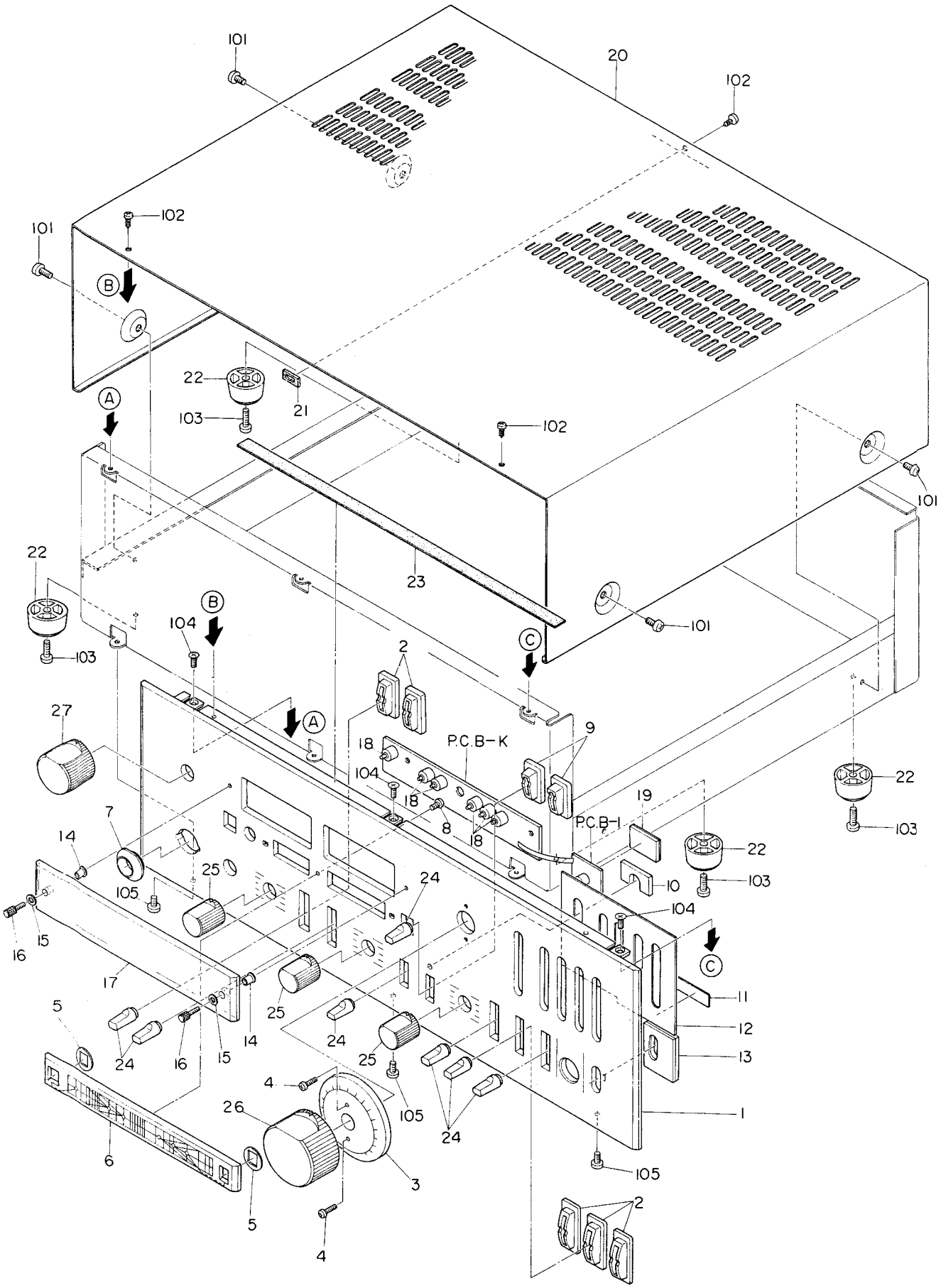


LEVEL DIAGRAM





EXPLODED VIEW–1



PARTS LIST

MECHANICAL PARTS

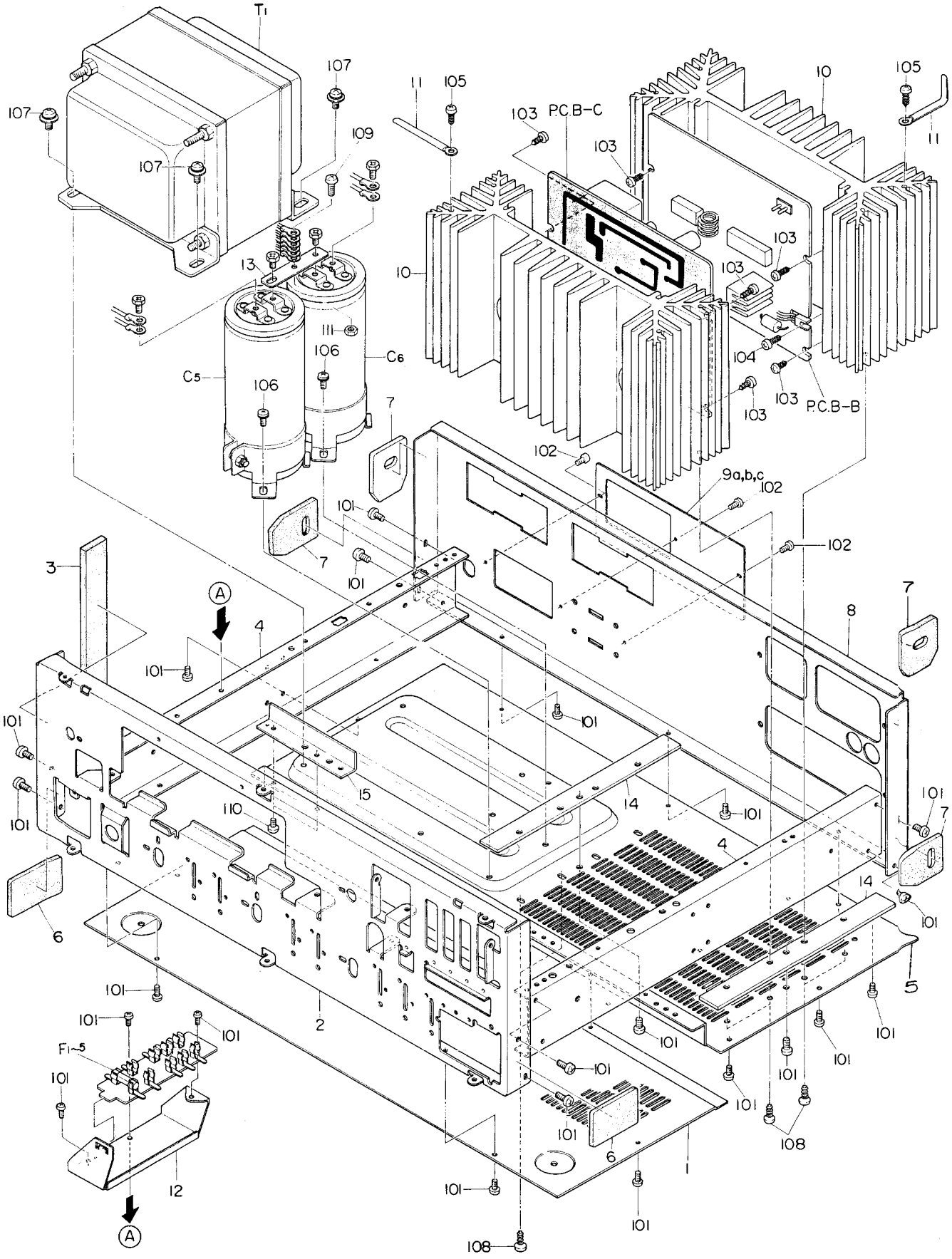
■ * mark in this part list shows exclusive part (which is used) for only Model AA-8700.

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
1~13	09-047-120-01		Panel assembly		
1-1	82-478-033-01		Front sash	*	1
1-2	82-478-023-01		Guide, Lever switch	*	3
1-3	82-478-007-01		Ring, Volume	*	1
1-4	87-231-096-21		Q + 3-10		2
1-5	82-478-214-01		Button guide	*	2
1-6	82-478-005-01		Decorative plate, Front	*	1
1-7	82-478-012-01		Ring, Power button	*	1
1-8	87-231-095-01		Q + 3-8		1
1-9	82-478-027-01		Guide, Lever switch	*	2
1-10	82-478-217-01		Cushion A, LED	*	1
1-11	82-478-219-01		Cushion felt, Selector button	*	1
1-12	82-478-213-01		Guide, Selector button	*	1
1-13	82-478-212-01		Lever guide	*	1
1-14	82-488-023-01		G sleeve		2
1-15	82-488-024-01		G washer		2
1-16	82-488-016-01		Screw, Window		2
1-17	82-478-045-01		Window, Meter	*	1
1-18	82-478-206-01		Rubber bushing, LED	*	6
1-19	82-478-218-01		Cushion	*	1
1-20	82-478-048-01		Steel cabinet ass'y	*	1
1-21	82-380-439-01		Spacer, Back panel	AD-6500	1
1-22	87-085-162-01		Foot		4
1-23	82-397-245-01		Himeron cloth, Cabinet	AD-6550	1
1-24	82-399-024-01		Knob, Selector	AD-6400	7
1-25	82-478-031-01		Tone knob ass'y	*	3
1-26	82-478-028-01		Volume knob ass'y	*	1
1-27	82-478-008-01		Selector knob ass'y	*	1

Ref. No.	Part No.	Description	Q'ty
1-101	87-257-169-11	U + 4-6 (Black)	4
1-102	87-340-095-01	UT_1 + 3-8 (Black)	3
1-103	87-251-171-21	V + 4-10	4

Ref. No.	Part No.	Description	Q'ty
1-104	87-081-531-01	QTT + 3-6	3
1-105	87-081-511-01	VTT + 3-6	3

EXPLODED VIEW-2

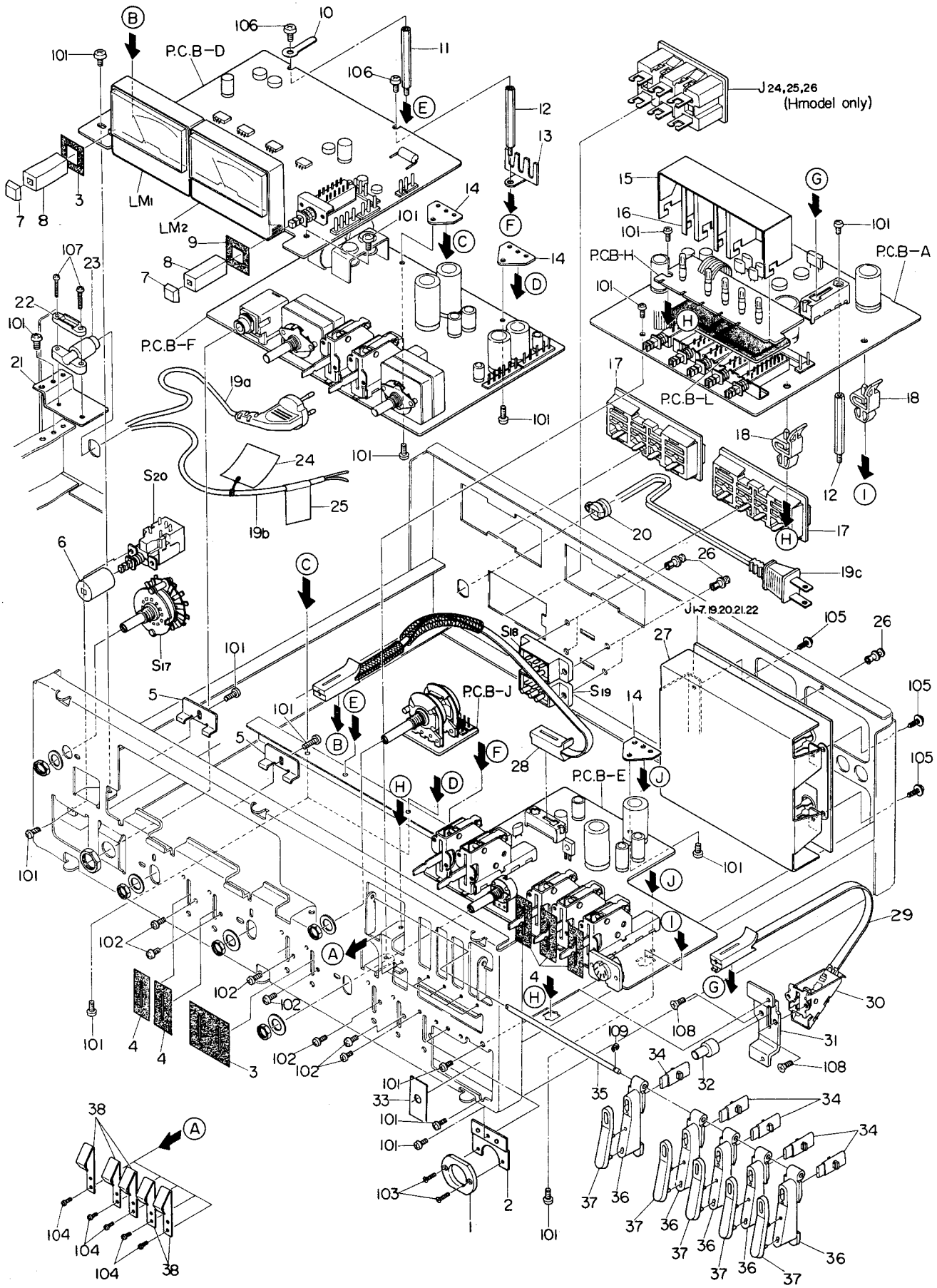


Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
2-1	82-478-004-01		Bottom plate	*	1
2-2	82-478-201-01		Front chassis	*	1
2-3	82-473-271-01		Spacer E, Side panel	AX-7500	1
2-4	82-478-202-01		Side chassis	*	2
2-5	82-478-255-01		Amp. chassis	*	1
2-6	82-473-270-01		Spacer D, Side panel	AX-7500	2
2-7	82-473-245-01		Spacer A, Side panel	AX-7500	4
2-8	82-478-034-01		Panel E, Back	*	1
2-9 a	82-478-025-01		Name plate, Spec. (Emodel only)	*	1
2-9 b	82-478-040-01		Name plate, Spec. (K model only)	*	1
2-9 c	82-478-045-01		Name plate, Spec. (H model only)	*	1
2-10	82-478-602-01		Heat sink B	*	2
2-11	87-064-080-01		Wire binder, 4ϕ		2
2-12	82-478-224-01		Holder, Circuit board	*	1
2-13	82-478-659-01		Earth plate	*	1
2-14	82-478-229-01		Spacer, Heat sink	*	2
2-15	82-487-222-11		Auxiliary plate L		1

Ref. No.	Part No.	Description	Q'ty
2-101	87-081-511-01	VTT + 3-6	22
2-102	87-257-033-01	U + 2-4 (Black)	3
2-103	87-341-094-21	UT_1 + 3-6	8
2-104	87-342-096-21	UT_2 + 3-10	2
2-105	87-352-169-21	VT_2 + 4-6	2
2-106	87-480-169-11	VS + 4-6	4

Ref. No.	Part No.	Description	Q'ty
2-107	87-490-170-11	VWS + 4-8	4
2-108	87-352-171-21	VT_2 + 4-10	8
2-109	87-261-170-21	V + 4-8	1
2-110	87-261-095-21	V + 3-8	2
2-111	87-391-035-11	N-4	1

EXPLODED VIEW–3

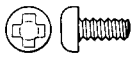


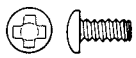
Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
3-1	82-397-054-01		Cover, DIN	AD-6550	1
3-2	82-380-355-01		Holder, DIN jack	AD-6500	1
3-3	82-478-220-01		Himeron clothA, Blind	*	2
3-4	82-478-221-01		Himeron cloth B, Blind	*	5
3-5	82-478-205-01		Holder, Meter	*	2
3-6	82-399-025-01		AC switch button ass'y	AD-6400	1
3-7	82-478-016-01		Cap, Filter button	*	2
3-8	82-478-015-01		Filter button	*	2
3-9	82-478-222-01		Himeron C, Lever	*	1
3-10	87-038-039-01		Wire binder		1
3-11	82-478-215-01		Brass post B, Circuit board	*	1
3-12	82-478-208-01		Brass post A, Circuit board	*	1
3-13	87-032-860-01		Pin, 5P		1
3-14	82-478-204-01		Holder, Circuit board	*	3
3-15	82-478-211-01		Blind B, Pilot lamp	*	1
3-16	82-478-209-01		Blind A, Pilot lamp	*	2
3-17	87-033-148-01		Screw, Speaker terminal		2
3-18	87-064-088-01		Holder, Circuit board		2
3-19 a	87-034-884-01		AC power cord (E model only)		1
3-19 b	87-034-872-01		AC power cord (K model only)		1
3-19 c	87-034-885-01		AC power cord (H model only)		1
3-20	87-085-101-01		Cord bushing (H model only)		1
3-21	82-478-207-01		Holder, Cord bushing (E, K model only)	*	1
3-22	87-085-095-01		Holder B, AC power cord (E, K model only)		1
3-23	87-085-094-01		Holder A, AC power cord (E, K model only)		1
3-24	87-056-008-01		Label, AC power cord (K model only)		1
3-25	87-056-016-01		Tag, Main voltage (K model only)		1
3-26	87-085-102-01		Nylon rivet		7
3-27	82-478-603-01		Shield plate		1
3-28	87-034-920-01		Push switch, REMOTE wire		1
3-29	87-034-919-01		Wire, Lever switch		1
3-30	87-031-452-01		Lever switch, REMOTE		1
3-31	82-478-228-01		SW holder (MC)	*	1
3-32	82-478-038-01		Cartridge selector ass'y	*	1
3-33	82-478-022-01		Knob plate	*	1
3-34	82-478-019-01		Window, Selector indication	*	5
3-35	82-478-210-01		Shaft, Selector button	*	1
3-36	82-478-017-01		Selector button	*	5
3-37	82-478-018-01		Cap, Selector button	*	5
3-38	82-365-294-01		Pressure plate spring, Cassette		5

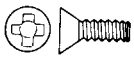
Ref. No.	Part No.	Description	Q'ty
3-101	87-081-511-01	VTT + 3-6	16
3-102	87-261-092-21	V + 3-4	7
3-103	87-231-035-21	Q + 2-6	2
3-104	87-081-501-01	VTT + 2.6-4	5
3-105	87-081-871-01	Special screw + 3-8 (Black)	4

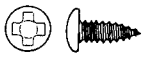
Ref. No.	Part No.	Description	Q'ty
3-106	87-251-097-21	U + 3-12	2
3-107	87-261-099-21	V + 3-15	2
3-108	87-231-094-21	Q + 3-6	2
3-109	87-441-006-01	STE-2.3	1

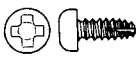
HARDWARE NOMENCLATURE

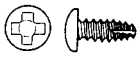
V: Pan head screw 

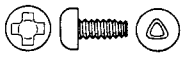
U: Binding head screw 

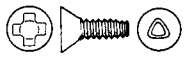
Q: Flat countersunk head screw 

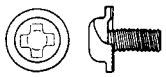
UT1: Binding head tapping screw 

VT2: Pan head tapping screw 

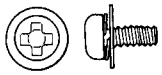
UT2: Binding head tapping screw 

VTT: Pan head tap-tight screw 

QTT: Pan head tap-tight screw 

Special screw 

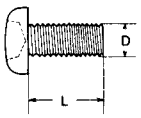
VS: Pan head screw with spring washer

VWS: Pan head tapping screw with spring washer and washer 

N: Nut

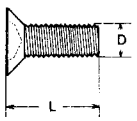
STE: E ring

Example: V + 3 – 6



- 6 — Length in mm
- 3 — Diameter in mm
- + — Type of Slot
- V — Type of Head

Example: Q + 3 – 6



- 6 — Length in mm
- 3 — Diameter in mm
- + — Type of Slot
- Q — Type of Head

ACCESSORIES/PACKAGE

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
1	82-478-851-01		Printed indiv., Packing	*	1
2	82-478-852-01		Cushion L, Printed indiv.	*	1
3	82-478-853-01		Cushion R, Printed indiv.	*	1
4	87-051-131-01		Poly-vinyl sack (for AC power cord) (K, H model only)		1
5	87-051-183-01		Poly-vinyl sack (for AC power cord) (E model only)		1
6	87-056-564-01		Curl stopper		2
7	87-056-607-01		Poly-vinyl sack (for case)		1
8 a	82-478-901-01		Instructions booklet (E model only)	*	1
8 b	82-478-902-01		Instructions booklet (K model only)	*	1
8 c	82-478-905-01		Instructions booklet (H model only)	*	1
9	87-056-008-01		Label, AC power cord (K model only)		1
10	87-056-009-01		Distributors list		1
11	87-056-016-01		Tag, Main voltage (K model only)		1
12	87-056-608-01		Poly-vinyl sack (for instruction)		1
13	87-032-930-01		Siemens plug (H model only)		1
14	87-058-023-01		Cord binder		1

AIWA

SCHEMATIC DIAGRAM

A PHONO AMP C.B Q1,2 2SK147(GR) MC HEAD AMP Q3,4 2SK146 EQ AMP Q5,6 2SC2291(G) EQ AMP Q7,8,9,10,11,12 2SA872(E) EQ AMP Q13,14 2SD668(C) Q15,16 2SB648(C) EQ AMP

L SWITCH C.B

B MAIN AMP C.B

C MAIN AMP C.B

D MEMORY C.B

E PRE AMP C.B

F TAPE-3 PLAY/REC

G DIN JACK C.B

H LAMP C.B

I LED C.B-1

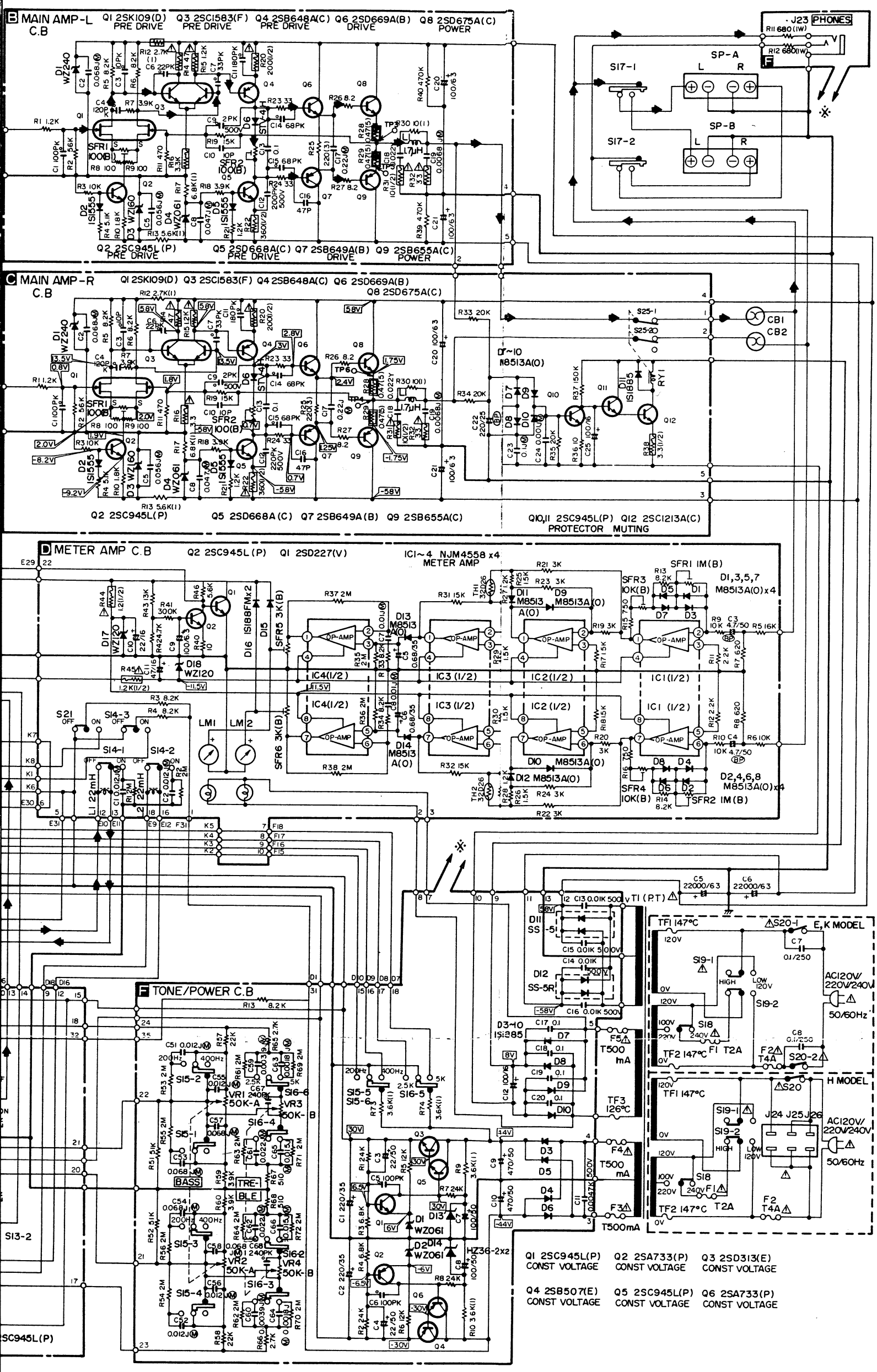
J VOL C.B

K LED C.B-2

S1-1~4	CARTRIDGE	(MM)
S2-1~6	PHONO-1	(ON)
S3-1~6	PHONO-2	(OFF)
S4-1~6	TUNER	(OFF)
S5-1~6	AUX	(OFF)
S6-1~6	TAPE	(SOURCE)
S7-1,2	SELECTOR SW MUT (RELAY)	(OFF)
S8-1,2	MONITOR	(TAPE 1)
S9-1~4	COPY	(SOURCE)
S10-1,2	LOUDNESS	(OFF)
S11-1,2	LOW FILTER	(OFF)
S12-1~4	MODE	(STEREO)
S13-1~4	MUTING	(OFF)
S14-1~4	HIGH FILTER	(OFF)
S15-1~6	TURNOVER	(OFF)
S16-1~6	TURNOVER	(OFF)
S17-1,2	SPEAKERS	(A)
S18	VOLTAGE SELECTOR	(240V)
S19	VOLTAGE SELECTOR	(HIGH)
S20	POWER	(ON)
S21	LOW FILTER	(OFF)
S22	SELECTOR SW MUT (RELAY)	(O
S23	MUTING SW (RELAY)	(ON)
S24	MUTING SW (RELAY)	(ON)
S25-1,2	PROTECTOR, MUTING (RELAY)	

Q1,2 2SK150(GR) PRE AMP Q3,4 2SC2291(G) PRE AMP Q5,6 2SA872(E) PRE AMP Q7,8 2SD668(C) PRE AMP Q9,10 2SB648(C) PRE AMP Q11 2SC945L(P)

11 12 13 14 15 16 17 18 19

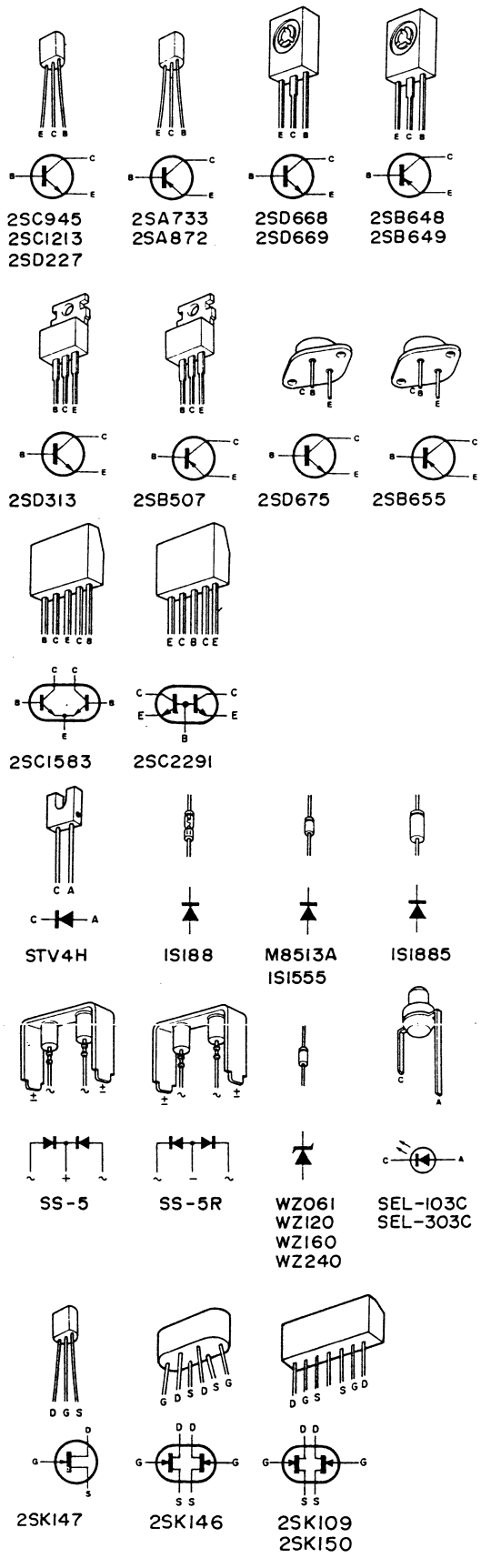


NOTES:

1) —— B (+) power supply —— B (−) power supply
2) ➡ Signal path
3) The voltage is the reference value measured with a tester (20 k-ohms/V DC) when there are no signals.
4) Resistors with no designation have a rated power of ¼W and a tolerance of ±5%.
5) Capacitors with no designation have a dielectric strength of less than 50WV.
6) The only capacitor tolerances indicated are ±5% (J) and ±10% (K).
7) Ceramic-capacitor symbols:
   - For temperature compensation (SL)
   - High dielectric constant system (YY)
   - High dielectric constant system (YW, YP, YZ)
8) Explanation of symbols
   - (M) Mylar capacitor
   - (PP) Polypropylene film capacitor
   - (BP) Bi-polarized capacitor
   - (T) Tantalum capacitor
   - Fuse resistor
   - Nonflammable resistor
   - ⚠: Safety component symbol

   This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.

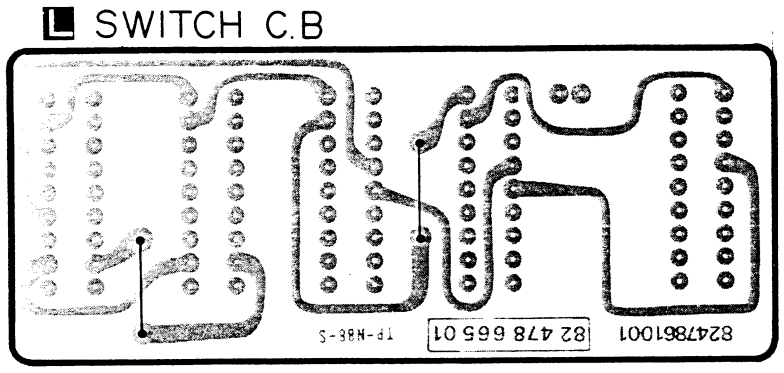
- This schematic diagram is subject to change without notice in the interests of improved performance.



(F)
T (RELAY) (OFF)
AY) (ON)
AY) (ON)
ING (RELAY)

WIRING-1

L SWITCH C.B



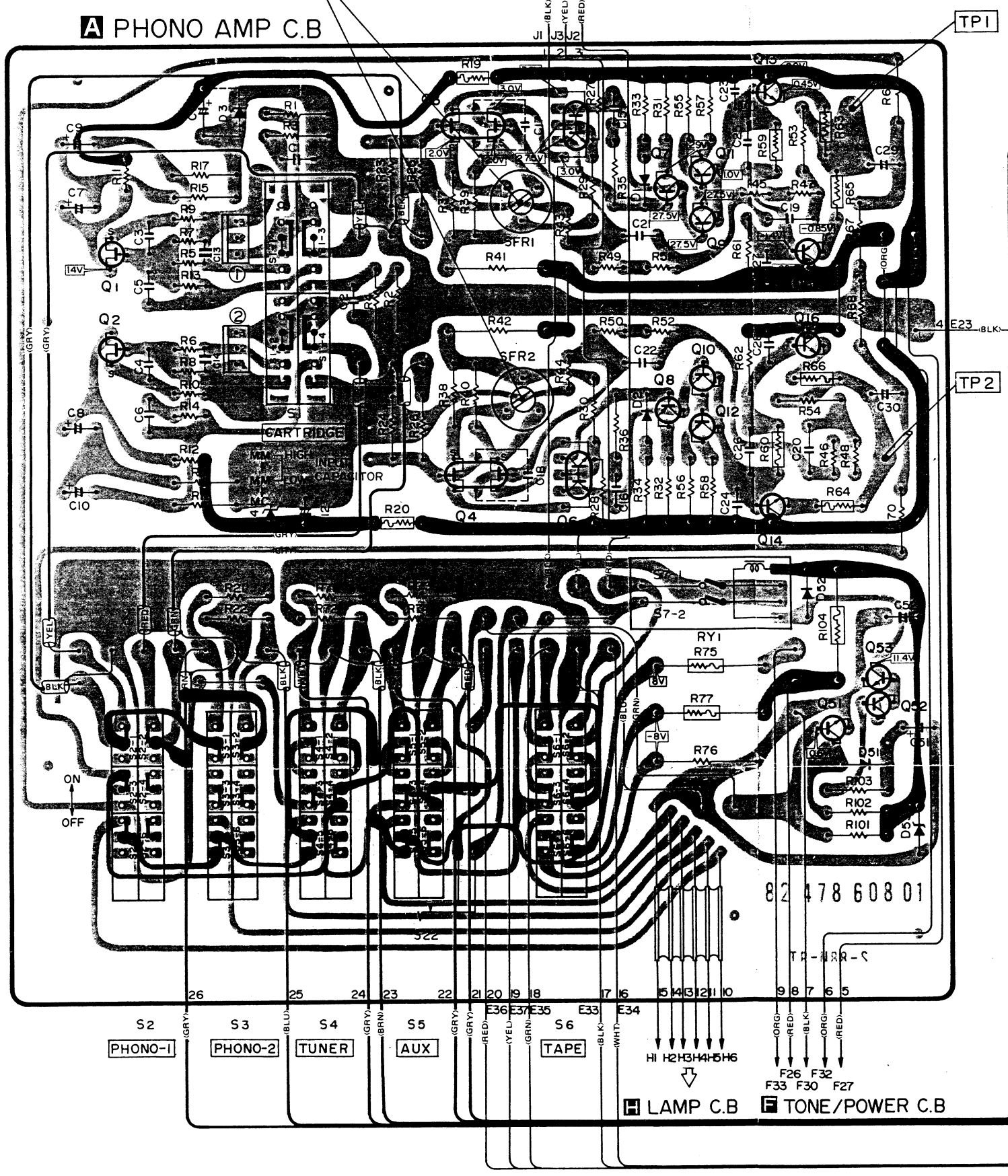
3 Phono Amp. DC Balance Adjustment

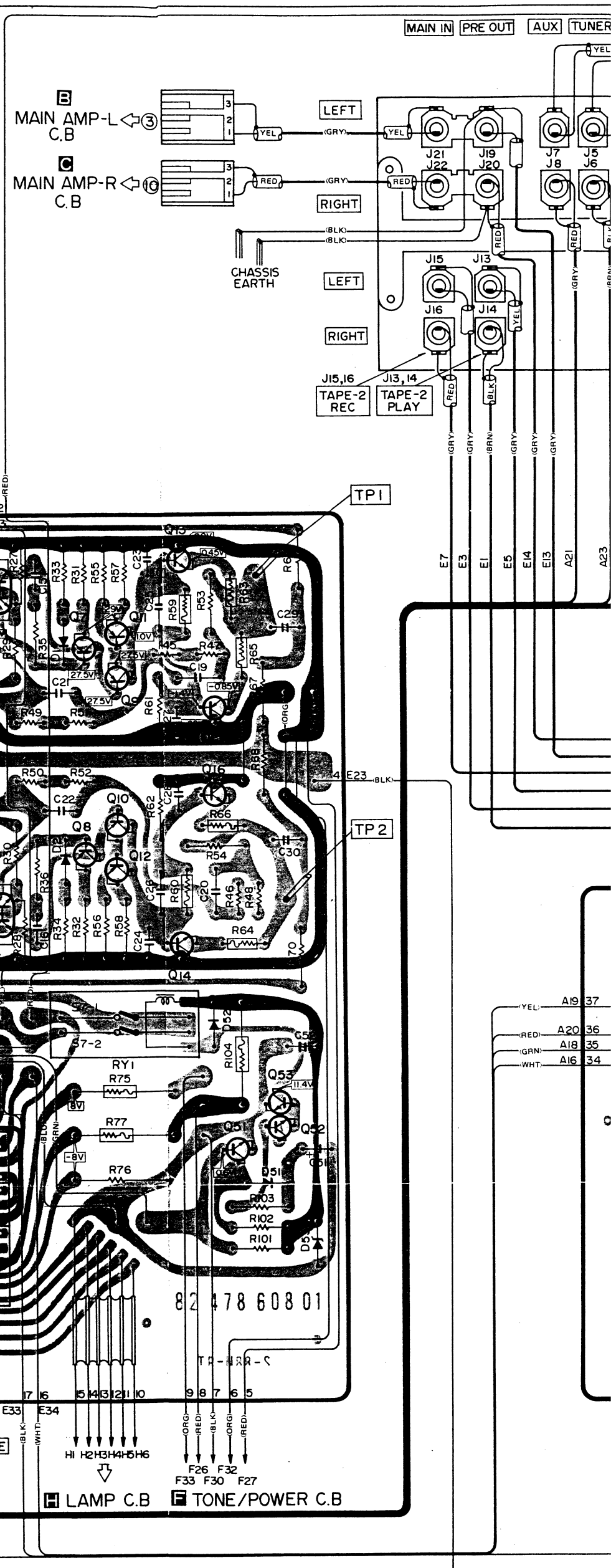
Settings:
- PHONO Input: PHONO 1, (2) short
- SELECTOR Switch: PHONO 1, (2)
- Test point: TP1 (L-ch), TP2 (R-ch)
- Adjustment location: SFR1 (L-ch)
  SFR2 (R-ch)

Method: Adjust SFR1 and SFR2 so that the voltage level is less than ± 0.5V.

Rating: Less than ± 0.5V.

A PHONO AMP C.B





NOTES (1) B (+) Pattern B(—) Pattern Others pattern (2) The voltage is the reference value measured with a tester (20 K Ω

11 12 13 14 15 16 17 18 19 20 21

AUX TUNER PHONO-2 PHONO-1

A PHONO AMP C.B

G DIN JACK C.B

J11,12 TAPE-1 REC

J9,10 TAPE-1 PLAY

J17 DIN TAPE-1 REC/PLAY

J VOL C.B

VR5,6 VOLUME

D METER AMP C.B

F TONE/POWER C.B

E PRE AMP C.B

CHASSIS EARTH

J18 TAPE-3 PLAY/REC

S9 COPY

S8 MONITOR

TAPE

S12 MODE

VR7,8 BALANCE

S13 MUTING

S10 LOUDNESS

SIGNAL EARTH TERMINAL

SOURCE

TAPE3

TAPE1

TAPE2

STEREO

REV

LOW FILTER

ON OFF

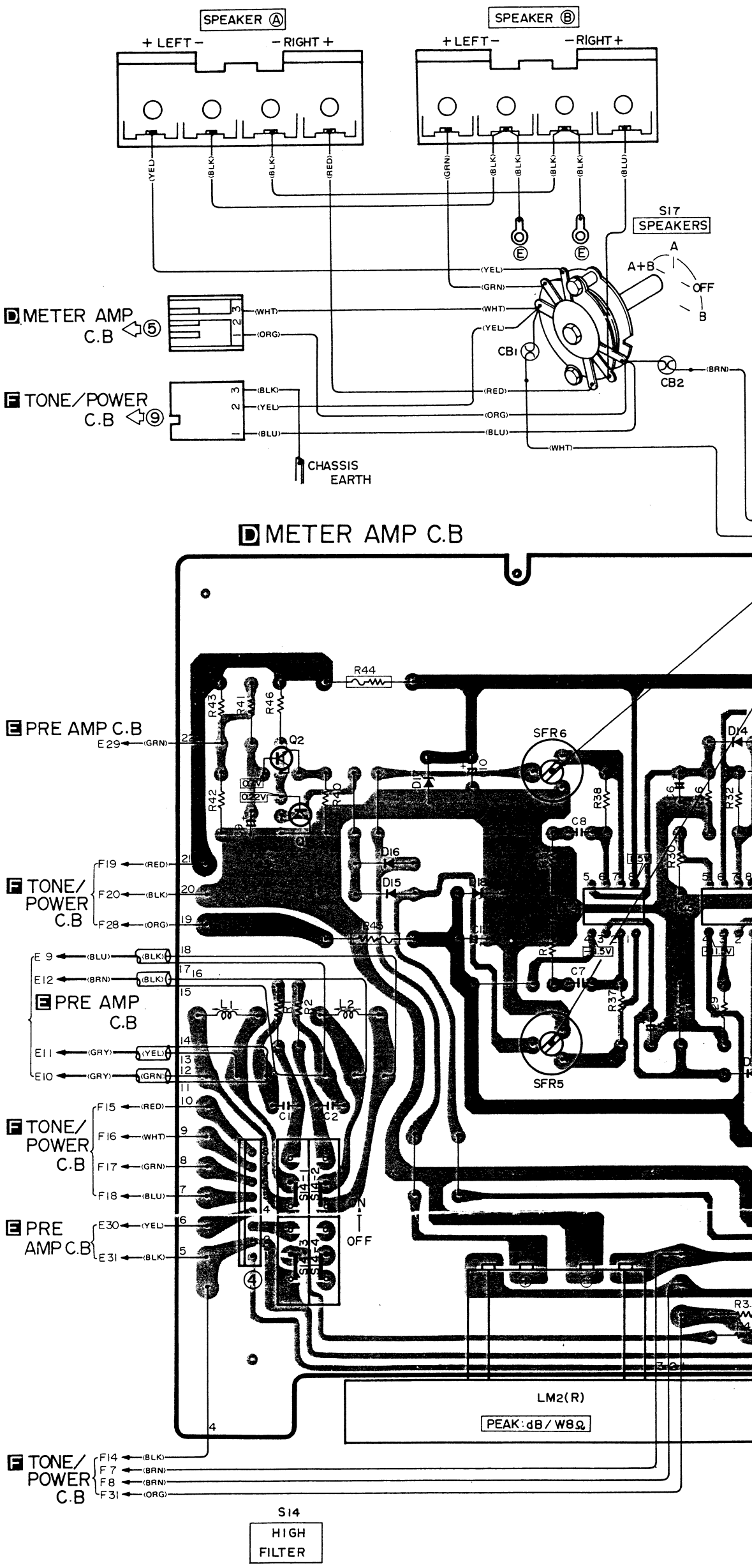
D22 D6 D5 D METER AMP C.B

F35 F TONE/POWER C.B

a tester (20 K ohms/V DC) when there are no signals.

AIWA

WIRING-2



1 Idling Current Adjustment

Settings: • Test point: TP5 (L-
• Adjustment location
Method: Connect a DC voltmete
Adjust SFR2 so that th

2 Zero potential (DC Balance) Adjust

Settings: • Test point: TP3 (L
• Adjustment locatio
Method: Connect a DC voltmete
Adjust SFR1 so that th
Rating: less than ±5 mV.

4 Meter Amp. Adjustment

Settings: • Input signal level: Aux, 150mV (−16.5 dB), 1kHz, −
dB, −56.5 dB
• Output level: 0 dB (10 W), −20 dB, −40 dB
• SELECTOR Switch: AUX
• Adjustment location: SFR1,3,5 (L-ch)
SFR2,4,6 (R-ch)
Method: Adjust SFR1 and SFR2 so that the output level is
(10 W).
Adjust SFR3,4 and SFR5,6 so that the output level is
dB (0.1 W) and −40 dB (0.01 W).

NOTES (1) B (+) Pattern B (−) Pattern Component side pattern Others pattern (2) The voltage is the reference
(20 K ohms/V DC) when th

djustment

st point: TP5 (L-ch), TP6 (R-ch)
djustment location: SFR2
ct a DC voltmeter across test points TP 5,6.
t SFR2 so that the level is 23 mV (50 mA)

C Balance) Adjustment

est point: TP3 (L-ch), TP4 (R-ch)
djustment location: SFR1
ect a DC voltmeter across test point TP3,4.
t SFR1 so that the level is less than ±5 mV.
han ±5 mV.

6.5 dB), 1kHz, –36.5
, –40 dB
ch)
ch)
output level is 0 dB
he output level is –20

C MAIN AMP-R C.B

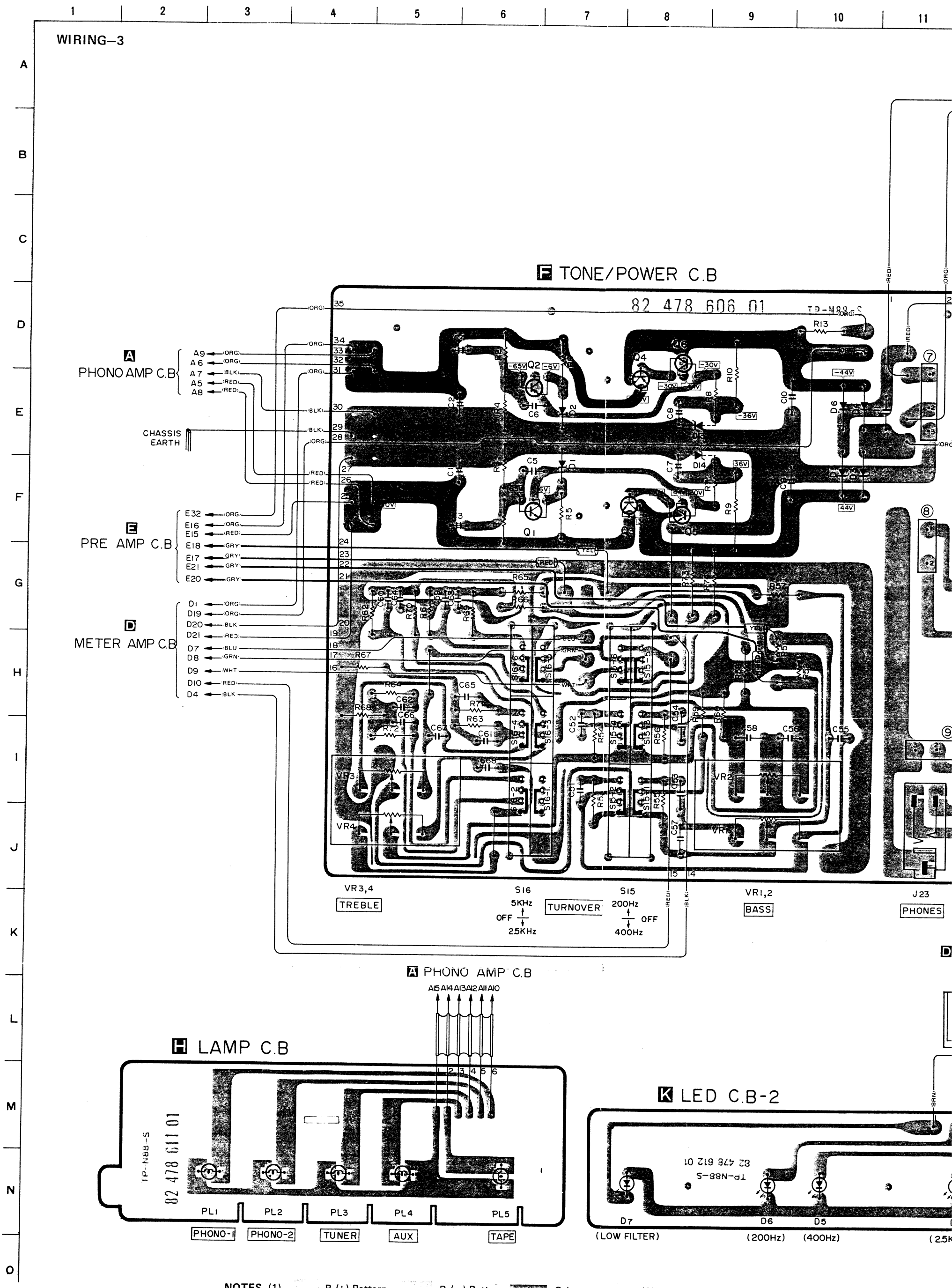
B MAIN AMP-L C.B

C MAIN AMP-R C.B

S21
LOW
FILTER

is the reference value measured with a tester
s/V DC) when there are no signals.

WIRING–3



NOTES (1) B (+) Pattern B (–) Pattern Others pattern (2) The voltage is the reference value measured with a tester (20

11 12 13 14 15 16 17 18 19 20 21

"H" MODEL ONLY
AC120V/220/240V 50/60Hz
J26 J25 J24
(UNSWITCHED) (SWITCHED)
AC OUTLET
S20 POWER

"K" MODEL ONLY
S20 POWER
AC120V/220V/240V 50/60Hz

"E" MODEL ONLY
S20 POWER
AC120V/220V/240V 50/60Hz

F5 T500mA F4 T500mA F3 T500mA F1 T2A F2 T4A

J23 PHONES

F TONE/POWER C.B ⇦⑥
D METER AMP C.B
C MAIN AMP-R C.B ⑫⇨
F TONE/POWER C.B ⇦⑧
F TONE/POWER C.B ⇦⑦

T1(PT)

S18 (VOLTAGE SELECTOR)
240V 220V
HIGH LOW 120V
S19 (VOLTAGE SELECTOR)

B MAIN AMP-L C.B
C MAIN AMP-R C.B
SPEAKER TERMINAL EARTH
CHASSIS EARTH

D METER AMP C.B

I LED C.B-I
D4 (2.5KHz) D3 (5Hz) D2 (HIGHT FILTER)
D1 (MUTING)

d with a tester (20 K ohms/V DC) when there are no signals

ELECTRICAL MAIN PARTS LIST

Symbol No.	Part No.	Description
≪PHONO AMP CIRCUIT BOARD SECTION≫		
PCB-A	82-478-608-11	Phono amp circuit board
Q1,2	89-501-475-01	FET, 2SK147 (GR)
Q3,4	89-501-460-01	FET, 2SK146
Q5,6	89-322-915-01	Transistor, 2SC2291 (G)
Q7,8,9,10 11,12	89-108-725-01	Transistor, 2SA872 (E)
Q13,14	89-406-683-01	Transistor, 2SD668 (C)
Q15,16	89-206-483-01	Transistor, 2SB648 (C)
Q51,52	89-309-456-01	Transistor, 2SC945L (P)
Q53	89-312-133-01	Transistor, 2SC1213A (C)
D1,2,51,52	87-027-097-01	Diode, 1S1555
D3,4	87-027-390-01	Zener diode, HZ24-3L
D53	87-027-234-01	Zener diode, WZ-120
RY1,S7	87-045-112-01	Reed relay, HA-212S
S1	87-031-462-01	Lever switch (CARTRIDGE)
S2,3,4,5,22	87-031-410-01	Push switch (PHONO 1,2, TUNER, AUX)
S6	87-031-484-01	Push switch (TAPE)
SFR1,2	87-021-553-01	Semi-fixed resistor, 100Ω-B
PIN-1,2	87-032-903-01	Pin, 3P
PCB-L	82-478-610-01	Switch circuit board
		<Resistors>
R5,6,9,10	87-025-201-01	10Ω 1/4W Metal film
R49,50	87-025-216-01	47Ω 1/4W Metal film
R43,44	87-025-202-01	160Ω 1/4W Metal film
R7,8	87-025-203-01	220Ω 1/4W Metal film
R76	87-025-156-01	330Ω 1W Metal film
R13,14	87-025-204-01	1kΩ 1/4W Metal film
R45,46	87-025-215-01	1.1kΩ 1/4W Metal film
R11,12	87-025-205-01	2.2kΩ 1/4W Metal film
R41,42	87-025-181-01	3.6kΩ 1W Metal film
R51,52	87-025-207-01	7.5kΩ 1/4W Metal film
R47,48	87-025-208-01	91kΩ 1/4W Metal film
⚠ R63,64,65 66	87-029-063-01	47Ω 1/4W Fuse resistor
⚠ R19,20	87-029-072-01	680Ω 1/4W Fuse resistor
⚠ R75	82-478-670-01	680Ω 1W Fuse resistor
⚠ R77	82-478-671-01	820Ω 1W Fuse resistor
⚠ R59,60	87-029-071-01	1.2kΩ 1/4W Fuse resistor
⚠ R104	87-029-049-01	1.2kΩ 1/2W Fuse resistor
		<Capacitors>
C29,30	82-478-677-01	22μF 50V Electrolytic BP
C21,22	87-014-083-01	0.01μF PP
C19,20	87-014-084-01	0.035μF PP
C7,8,9,10	82-478-626-01	10μF 35V Tantalum
≪MAIN AMP-L CIRCUIT BOARD SECTION≫		
PCB-B	82-478-605-01	Main amp-L circuit board
Q1	89-501-094-01	FET, 2SK 109 (D)
Q2	89-309-456-01	Transistor, 2SC945L (P)
Q3	89-315-834-01	Transistor, 2SC1583 (F)
Q4	87-026-126-01	Transistor, 2SB648A (C)
Q5	87-026-127-01	Transistor, 2SD668A (C)
Q6	87-026-125-01	Transistor, 2SD669A (B)
Q7	87-026-124-01	Transistor, 2SB649A (B)
Q8	87-026-151-01	Transistor, 2SD675A (C)
Q9	87-026-150-01	Transistor, 2SB655A (C)
D1	82-481-636-01	Zener diode, WZ-240
D2,5	87-027-097-01	Diode, 1S1555
D3	87-027-287-01	Zener diode, WZ-160
D4	82-415-637-01	Zener diode, WZ-061
D6	87-026-135-01	Diode, STV-4H
L1	82-478-632-01	Coil, 1.7μH
SFR1,2	87-021-559-01	Semi-fixed resistor, 100Ω-B
PIN-3	87-032-903-01	Pin, 3P
		<Resistors>
R30	87-025-120-01	10Ω 1W Metal film
R25	87-025-195-01	220Ω 3W Metal film
R12	87-025-178-01	2.7kΩ 1W Metal film
R13	87-025-186-01	5.6kΩ 1W Metal film
R17	87-025-188-01	6.8kΩ 1W Metal film
R28,29	87-025-200-01	0.47Ω 5W Cement resistor
⚠ R31	87-029-083-01	10Ω 1/2W Fuse resistor
⚠ R32	87-029-380-01	33Ω 1/4W Fuse resistor
⚠ R14	87-029-063-01	47Ω 1/4W Fuse resistor
⚠ R20	87-029-043-01	200Ω 1/2W Fuse resistor
⚠ R22	87-029-044-01	360Ω 1/2W Fuse resistor
⚠ R15	87-029-071-01	1.2kΩ 1/4W Fuse resistor
⚠ R16	87-029-073-01	3.3kΩ 1/4W Fuse resistor
		<Capacitor>
C20,21	87-015-397-01	100μF 63V Electrolytic
≪MAIN AMP-R CIRCUIT BOARD SECTION≫		
PCB-C	82-478-615-01	Main amp-R circuit board
Q1	89-501-094-01	FET, 2SK109 (D)
Q2,10,11	89-309-456-01	Transistor, 2SC945L (P)
Q3	89-315-834-01	Transistor, 2SC1583 (F)
Q4	87-026-126-01	Transistor, 2SB648A (C)
Q5	87-026-127-01	Transistor, 2SD668A (C)
Q6	87-026-125-01	Transistor, 2SD669A (B)
Q7	87-026-124-01	Transistor, 2SB649A (B)
Q8	87-026-151-01	Transistor, 2SD675A (C)
Q9	87-026-150-01	Transistor, 2SB655A (C)
Q12	89-312-133-01	Transistor, 2SC1213A (C)
D1	82-481-636-01	Zener diode, WZ-240
D2,5	87-027-097-01	Diode, 1S1555
D3	87-027-287-01	Zener diode, WZ-160
D4	82-415-637-01	Zener diode, WZ-061
D6	87-026-135-01	Diode, STV-4H
D7,8,9,10	87-026-066-01	Diode, M8513A (O)
D11	87-027-083-01	Diode, IS1885
L1	82-478-632-01	Coil, 1.7μH
SFR1,2	87-021-559-01	Semi-fixed resistor, 100Ω-B
PIN-10	87-032-903-01	Pin, 3P
PIN-11,12	87-032-897-01	Pin, 3P
RY1,S25	82-473-610-11	Relay
		<Resistors>
R30	87-025-120-01	10Ω 1W Metal film
R25	87-025-195-01	220Ω 3W Metal film
R12	87-025-178-01	2.7kΩ 1W Metal film
R13	87-025-186-01	5.6kΩ 1W Metal film
R17	87-025-188-01	6.8kΩ 1W Metal film
R28,29	87-025-200-01	0.47Ω 5W Cement resistor
⚠ R38	87-029-048-01	3.3Ω 1/2W Fuse resistor
⚠ R31	87-029-083-01	10Ω 1/2W Fuse resistor
⚠ R32	87-029-380-01	33Ω 1/4W Fuse resistor
⚠ R14	87-029-063-01	47Ω 1/4W Fuse resistor
⚠ R20	87-029-043-01	200Ω 1/2W Fuse resistor
⚠ R22	87-029-044-01	360Ω 1/2W Fuse resistor
⚠ R15	87-029-071-01	1.2kΩ 1/4W Fuse resistor
⚠ R16	87-029-073-01	3.3kΩ 1/4W Fuse resistor
		<Capacitors>
C20,21	87-015-397-01	100μF 63V Electrolytic
C22	87-015-450-01	220μF 25V Electrolytic BP
≪METER AMP CIRCUIT BOARD SECTION≫		
PCB-D	82-478-607-11	Meter amp circuit board
IC1,2,3,4	87-027-183-01	IC, NJM-4558
Q1	89-402-275-01	Transistor, 2SD227 (V)
Q2	89-309-456-01	Transistor, 2SC945L (P)
D1,2,3,4 5,6,7,8 9,10,11,12 13,14	87-026-066-01	Diode, M8513A (O)
D15,16	88-052-188-11	Diode, IS188 (FM)
D17,18	87-027-234-01	Zener diode, WZ-120
L1,2	82-371-644-01	Coil, 22mH
LM1,2	82-478-638-01	Level meter (PEAK/dB)
S14	87-031-448-01	Push switch (HIGH FILTER)
S21	87-031-449-01	Push switch (LOW FILTER)
TH1,2	82-304-720-01	Thermister, 32D26
SFR1,2	87-021-518-01	Semi-fixed resistor, 1MΩ-B
SFR3,4	87-021-366-01	Semi-fixed resistor, 10kΩ-B
SFR5,6	87-021-423-01	Semi-fixed resistor, 3.3kΩ-B
PIN-5	87-032-903-01	Pin, 3P
PIN-4	87-032-908-01	Pin, 8P
		<Resistor>
⚠ R44,45	87-029-049-01	1.2kΩ 1/2W Fuse resistor
		<Capacitors>
C3,4	82-473-681-01	4.7μF 50V Electrolytic BP
C5,6	82-478-640-01	0.68μF 35V Tantalun
≪PRE AMP CIRCUIT BOARD SECTION≫		
PCB-E	82-478-609-11	Pre amp circuit board
Q1,2	89-501-505-01	FET, 2SK150 (GR)
Q3,4	89-322-915-01	Transistor, 2SC2291 (G)
Q5,6	89-108-725-01	Transistor, 2SA872 (E)
Q7,8	89-406-683-01	Transistor, 2SD668 (C)
Q9,10	89-206-483-01	Transistor, 2SB648 (C)
Q11	89-309-456-01	Transistor, 2SC945L (P)
D1,2	87-027-097-01	Diode, IS1555
RY1,S23 RY2,S24	87-045-121-01	Reed relay, S5124
J18	87-032-873-01	DIN jack 5P (TAPE-3 PLAY/REC)
VR7,8	87-021-515-01	Volume, 10kΩ-B (BALANCE)
S8	87-031-483-01	Lever switch (MONITOR)
S9	87-031-477-01	Lever switch (COPY)
S10	87-031-414-01	Lever switch (LOUDNESS)
S11	87-031-463-01	Push switch (LOW FILTER-2)
S12	87-031-455-01	Lever switch (MODE)
S13	87-031-413-01	Lever switch (MUTING)
		<Resistors>
R31,32	87-025-181-01	3.6kΩ 1W Metal film
R37,38	87-025-206-01	4.3kΩ 1/4W Metal film
⚠ R43,44,45,46	87-029-063-01	47Ω 1/4W Fuse resistor
		<Capacitor>
C11,12,17,18	82-478-677-01	22μF 50V Electrolytic BP
≪TONE/POWER CIRCUIT BOARD SECTION≫		
PCB-F	82-478-606-11	Tone/Power circuit board
Q1,5	89-309-456-01	Transistor, 2SC945L (P)
Q2,6	89-107-336-01	Transistor, 2SA733 (P)
Q3	89-403-135-01	Transistor, 25D313(E)
Q4	89-205-075-01	Transistor, 2SB507(E)
D1,2	82-415-637-01	Zener diode, WZ-061
D3,4,5,6 7,8,9,10	87-027-083-01	Diode, 1S1885
D11	87-027-230-01	Diode, SS-5
D12	87-027-231-01	Diode, SS-5R
D13,14	87-027-391-01	Zener diode, HZ36-2
VR1,2	87-021-551-01	Volume, 50kΩ-A (BASS)
VR3,4	87-021-552-01	Volume, 50kΩ-B (TREBLE)
J23	87-032-874-01	Jack, 6.3φ (PHONES)
S15,16	87-031-412-01	Lever switch (BASS, TREBLE)
PIN-8	82-481-649-01	Pin, 2P
PIN-6,7,9	87-032-897-01	Pin, 3P
		<Resistor>
R9,10,73,74	87-025-181-01	3.6kΩ 1W Metal film
≪DIN JACK CIRCUIT BOARD SECTION≫		
PCB-G	82-478-613-01	DIN JACK circuit board
J1,2,3,4, 5,6,7,8, 9,10,11,12, 13,14,15,16, 17,19,20,21, 22	82-478-680-01	Jack ass'y, 20P (PHONO-1L,R, PHONO-2L,R, TUNER-L,R, AUX L,R, TAPE-1 PLAY-L,R, TAPE-1 REC-L,R, TAPE-2 PLAY-L,R, TAPE-2 REC L,R, REC/PLAY DIN TAPE-1 PRE OUT L,R, MAIN IN L,R)
≪LAMP CIRCUIT BOARD SECTION≫		
PCB-H	82-478-611-01	Lamp circuit board
PL1,2,3,4	82-478-619-01	Pilot lamp (PHONO 1,2, TUNER, AUX)
PL5	82-478-620-01	Pilot lamp (TAPE)
	82-478-618-01	Pilot lamp socket
≪LED CIRCUIT BOARD-1 SECTION≫		
PCB-I	82-478-616-01	LED circuit board-1
D1	87-026-143-01	Light emitting diode, SEL-103C (RED) (MUTING)
≪VOL CIRCUIT BOARD SECTION≫		
PCB-J	82-478-614-01	VOL circuit board
VR5,6	87-021-549-01	Volume, 100kΩ-B (VOLUME)
≪LED CIRCUIT BOARD-2 SECTION≫		
PCB-K	82-478-612-01	LED circuit board-2
D2,7	87-026-143-01	Light emitting diode, SEL-103C (RED) (HIGH FILTER, LOW FILTER)
D3,4,5,6	87-026-142-01	Light emitting diode, SEL-303C (GRN) (5KHz, 2.5KHz, 400Hz, 200Hz)
≪MISCELLANEOUS≫		
⚠ T1	82-478-643-01	Power transformer (E, K model only)
⚠ T1	82-478-641-11	Power transformer (H model only)
⚠ F1	87-035-190-01	Fuse, "T" 2A (E, K model only)
⚠ F1	87-035-113-01	Fuse, "T" 2A (H model only)
	87-098-019-01	Fuse label, "T" 2A
⚠ F2	87-035-192-01	Fuse, "T" 4A (E, K model only)
⚠ F2	87-035-246-01	Fuse, "T" 4A (H model only)
	87-098-022-01	Fuse label, "T" 4A
⚠ F3,4,5	87-035-219-01	Fuse, "T" 500mA
	87-098-013-01	Fuse label, "T" 500mA
	82-473-717-01	Fuse holder, 5P
⚠ J24,25,26	87-032-927-01	ULAC outlet 3P (SWITCHED, UNSWITCHED) (H model only)
S17	87-031-453-01	Rotary switch (SPEAKERS)
⚠ S18,19	87-031-489-01	Slide switch (VOLTAGE SELECTOR) (E model only)
⚠ S18,19	87-031-364-01	Slide switch (VOLTAGE SELECTOR) (K,H model only)

Symbol No.	Part No.	Description
S20	87-031-408-01	Push switch (POWER)
CB1,2	82-478-631-01	Circuit braker
CON-3	82-478-649-01	Connector ass'y, 3P
CON-10	82-478-650-01	Connector ass'y, 3P
CON-2	82-478-651-01	Connector ass'y, 3P
CON-1	82-478-652-01	Connector ass'y, 3P
CON-5	82-478-653-01	Connector ass'y, 3P
CON-9	82-478-655-01	Connector ass'y, 3P
CON-12	82-478-656-01	Connector ass'y, 3P
CON-11	82-478-657-01	Connector ass'y, 3P
CON-4	82-478-654-01	Connector ass'y, 8P
	87-033-148-01	Speaker terminal screw (SPEAKER Ⓐ, Ⓑ)
	82-473-677-11	Transistor socket (Q8,9)
⚠	87-034-884-01	AC power cord (E model only)
⚠	87-034-872-01	AC power cord (K model only)
⚠	87-034-885-01	AC power cord (H model only)

Symbol No.	Part No.	Description
		<Capacitors>
C5,6	82-478-646-01	22000μF 63V Electrolytic
⚠ C7,8	84-190-622-01	0.1μF 250V Line capacitor

⚠ Safety component symbol

This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.

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